



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

## Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
P0041817	MEC002-VU	2	1	Net 30	M7075T6S0.375X5.000	M7075T6S0.375 X 5.000 : MATERIAL: 7075- T6/T62/T651 ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 OR MATERIAL: 7075- T6/T62/T65/ ALCLAD ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A- 250/13 OR AMS 4048 / 4049 OR ASTM B209 receive ft				24	12/17/2018	24		S138106	Stock	12/14/2018	\$ 22.18 / ft	3		\$534.09	Metaux Castle

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
		3			M7075T6S0.375X8.000	7075-T6S Sheet .375" Thick Plate X 8" Wide : MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 OR MATERIAL: 7075-T6/T62/T65/ ALCLAD ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A-250/13 OR AMS 4048 / 4049 OR ASTM B209 receive ft				12		12		S138111	Stock	12/14/2018	\$ 35.20 / ft	3		\$423.81	Metaux Castle
		4			M7075T6S1.750X3.000	7075-T6 Sheet 1.750" X 3.000" MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS 4045 OR ASTM B209 receive ft						12		S138114	Stock	12/14/2018	\$ 47.20 / ft	3		\$568.29	Metaux Castle
<b>Total:</b>										<b>48</b>		<b>48</b>								<b>\$1,526.19</b>	



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO041817**

**Supplier:** MEC002-VU  
Metaux Castle  
P.O. Box 4090 Stn A  
Toronto  
ON  
M5W OE9 Canada

**PO No:** PO041817

**PO Date:** 11/22/18

**Due Date:** 12/17/18

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**E-MAILED**  
NOV 23 2018

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

## **Items**

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M7075T6S2.000X7.000		7075-T6S Sheet 2" Thick Plate X 7" Wide (Order In Billets - 13.375") : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	12/17/18	22.3 ft	0 ft	22 ft	\$104.03587/ft	\$2,320.00

**Line Item Note** 20 pcs cut at 13.375" = 22.30 ft



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## PO041817

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
2 AC		M7075T6S0.375X5.000		M7075T6S0.375 X 5.000 : MATERIAL: 7075- T6/T62/T651 ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 OR MATERIAL: 7075- T6/T62/T65/ ALCLAD ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A- 250/13 OR AMS 4048 / 4049 OR ASTM B209  receive ft	Firmed	-	12/17/18	24 ft ✓	0 ft 24.08	24 ft	\$22.18/ft	\$532.32 AC 18/12/17



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## PO041817

### Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
3 ✓ AT		M7075T6S0.375X8.000		7075-T6S Sheet .375" Thick Plate X 8" Wide : MATERIAL: 7075- T6/T62/T651 ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 OR MATERIAL: 7075- T6/T62/T65/ ALCLAD ALUMINUM SHEET OR PLATE SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A- 250/13 OR AMS 4048 / 4049 OR ASTM B209  receive ft	Firmed	-	12/17/18	12 ft ✓	0 ft 12.04	12 ft AT 18/12/17	\$35.20/ft	\$422.40
4 ✓ AT		M7075T6S1.750X3.000		7075-T6 Sheet 1.750" X 3.000" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	12/17/18	12 ft ✓	0 ft 12.04	12 ft AT 18/12/17	\$47.20/ft	\$566.40
Grand Total:											\$3,841.12	



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

## PURCHASE ORDER PO041817

### Order Notes

#### Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents  
  
A048 counterfeit parts avoidance, detection, mitigation and disposition program  
A049 supplier awareness

A handwritten signature in black ink, appearing to be "C. Lavoie", is written over the right side of the Order Notes section.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 11/22/18 2:44 PM dart.lavoie.chantal

**Castle Metals®**

A. M. Castle &amp; Co.

PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

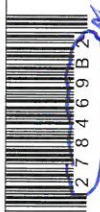
Page 1 of 1

Shipment No:3779153

Ship From:		Sold To:	Ship To:	Deliver To:
A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No
13-DEC-18	ORIGIN	Prepaid	MANITOULIN	3779153-2

## Shipment Details

Final Destination Branch - TOR

Order No	Line No	Item No	Description
5328080	3	750488.MO	1.7500.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 3 IN ( + .1250/- .0000 IN) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
Purchase Order No		Part Number	Ordered Qty
41817			1.00 PCS
Details		Invoice Qty	1.00 PCS
ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS			
Delivery No.	Mill/Source	Heat Number	Mech Id
122458542	KAISER ALUMINUM	 278469B2	1
		Width (IN)	Length (IN)
			78.5479

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material returned to the shipper without a certificate of material cut by the customer will not be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

Name:

DEC 13 2018

SUE KALOOS

Date Printed: 13-DEC-2018 02:18:22 PM



## SHIP TO:

A M CASTLE & CO  
14001 ORANGE AVE  
P.O. BOX 1402  
PARAMOUNT, CA 90723

## SOLD TO:

AM CASTLE & CO- SOLD TO  
1420 KENSINGTON RD  
SUITE 220  
OAK BROOK, IL 60523

# KAISER ALUMINUM

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4536956

CUSTOMER PO NUMBER: 474000-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 750488	SHIP RUN/LOAD: 104450/25	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1265308-1	SHIP DATE: 12-NOV-2018	ALLOY: 7075	CLAD: BARE	TEMPER: T651
PRODUCT DESCRIPTION: KaiserSelect Plate	WEIGHT SHIPPED: 6298 LB (2856.75 KG)	QUANTITY: 5 PCS EST.	TRUCK B/L #: 2077246	GAUGE: 1.7500 IN (44.4500 MM)
DIAMETER/WIDTH: 48.500 IN (1231.9 MM)	LENGTH: 144.500 IN (3670.3 MM)			

MHU 2257249: LOT 278469B2: 2 pieces;

MHU 2277317: LOT 716826B3: 3 pieces;

## Certified Specifications

AMS 4045/RevL  
ASTM B 209/Rev14  
BSS 7055/RevB  
DPS 4.713/RevAK  
PS 21211/RevP

AMS-QQ-A-250/12/RevA  
ASTM B 594/Rev13  
CMMP 025/RevV  
GAMPS 9101/RevB/AmdSCN1

AMS-STD-2154/RevC  
BAC 5439/RevJ  
CSTI 006/RevE  
GSS16100/RevG/Amd1

Test Code: 1512

Lot: 278469B2 Cast 690

Drop 50

## Test Results

Ingot 2

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	83.8 : 84.0 (578 : 579)	74.9 : 75.4 (516 : 520)	13.4 : 13.5

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.07	0.17	1.5	0.03	2.5	0.20	5.9	0.02	0.01	0.01	TOT 0.04
Lot: 716826B3	Cast 713	Drop 11	Ingot 4	Parent Lot: 280336B9	Melted in USA						

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	81.5 : 82.1 (562 : 566)	72.5 : 72.6 (500 : 501)	12.0 : 13.1

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.19	1.4	0.04	2.4	0.20	5.6	0.03	0.01	0.01	TOT 0.03







## CERTIFIED TEST REPORT

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

Serial Number

4536956

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

### ORDER COMMENTS

AMC CA-15403A R 9

### TEST NOTES

Metal represented by this test report was 100% Type I (immersion) ultrasonically tested from one side with 3mm dead zones top and bottom and meets the Class A and Class B requirements of all specifications referenced on this test report. No surface marking of sonic indications is performed.

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- \* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
- \* All test equipment and measuring devices are calibrated and certified in accordance with applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
- \* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
- \* has been thermally processed in compliance with AMS 2772, where applicable.
- \* is mercury free, within the limits of detection of ASTM E1215 (< 1ppm).
- \* is in compliance with RoHS 2, European Union Directive 2011/65/EU.
- \* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
- \* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
- \* is free of weld repair.
- \* meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Michael Peske, PT Lab Process Engineer

# SPECIFICATION CONTROL DRAWING

A. PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION:  
QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

B. PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION:  
QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048/4049  
OR ASTM B209

B. PART NUMBER: M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

B. WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

B. EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

B. PREFERRED SIZE: TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19 4  
ECN 17-574

B	ADD: REF TO PLATE: "T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CARIF-149)	CP	17.05.05
A	NEW ISSUE	RF	10.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
REV. B SHEET 1 OF 1			
SCALE			
7075-T6 SHEET/PLATE SPEC NTS			
COPYRIGHT © 2018 BY DART AEROSPACE LTD			

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075T651.750x3.000  
 DATE: 18/12/17

PO / BATCH NO.: P0041817/5138114

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.04 Lr  
 QUANTITY INSPECTED: 12.04 Lr  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.750"  
 THICKNESS RECEIVED: 1.750"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y N	AMS QQ-A-250/12
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	LT: 2784682
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 61</u> DATE: <u>18/12/17</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle &amp; Co.

PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

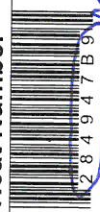
Page 1 of 1

Shipment No:3779153

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 13-DEC-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOULIN	<b>BOL No</b> 3779153-2

<b>Shipment Details</b>	<b>Final Destination Branch - TOR</b>
-------------------------	---------------------------------------

<b>Order No</b> 5328080	<b>Line No</b> 2	<b>Item No</b> 750067.MO	<b>Description</b> 0.3750.PL.7075.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 8 IN ( + .1250/- .0000 IN) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
<b>Purchase Order No</b> 41817	<b>Part Number</b>	<b>Ordered Qty</b> 1.00 PCS	<b>Invoice Qty</b> 1.00 PCS
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS			

<b>Delivery No.</b> 122458542	<b>Mill/Source</b> KAISER ALUMINUM	<b>Heat Number</b>  284947B9	<b>Mech Id</b>	<b>PCS</b> 1	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 45.4181
----------------------------------	--	---	----------------	-----------------	-------------------	--------------------	------------------------------------

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the date of shipment. Material not conforming to size, or material cut by the customer, cannot be returned for credit.	
Reviewed by Authorized Castle Metals Representative:	SUE KALOUS
	Date: DEC 13 2018 Name:



SHIP TO: A M CASTLE & CO 14001 ORANGE AVE P.O. BOX 1402 PARAMOUNT, CA 90723
SOLD TO: AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523

# KAISER ALUMINUM

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4528433

CUSTOMER PO NUMBER: 470854-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 750067	SHIP RUN/LOAD: 104393/8	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1263285-1	SHIP DATE: 16-SEP-2018	ALLOY: 7075	CLAD: BARE	TEMPER: T651
PRODUCT DESCRIPTION: Sawed Plate				
WEIGHT SHIPPED: 3216 LB	QUANTITY: 12 PCS EST.	TRUCK B/L #: 2076118	GAUGE: 0.3750 IN ( 9.5250 MM)	DIAMETER/WIDTH: 48.500 IN (1231.9 MM)
			LENGTH: 144.500 IN (3670.3 MM)	

MHU 2264264: LOT 284947B9: 12 pieces;

### Certified Specifications

AMS 4045/RevL  
CMMP 025/RevV

AMS-QQ-A-250/12 RevA

ASTM B 209/Rev14

Test Code: 1512

Lot: 284947B9 Cast 698

Drop 44

### Test Results

Ingot 2

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	85.1 : 85.1 (587 : 587)	74.5 : 74.5 (514 : 514)	14.1 : 14.2

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.18	1.5	0.03	2.4	0.20	5.7	0.03	0.01	0.01	TOT 0.03

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

### ORDER COMMENTS

AMC CA-15409 R 4





Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4528433

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

\* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.

All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.

\* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.

\* has been thermally processed in compliance with AMS 2772, where applicable.

\* is mercury free, within the limits of detection of ASTM E1215 (< 1ppm).

\* is in compliance with RoHS 2, European Union Directive 2011/65/EU.

\* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.

\* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.

\* is free of weld repair.

\* meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Michael Peske, PT Lab Process Engineer



# SPECIFICATION CONTROL DRAWING

A. PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION:

QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

B. PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION:

QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

B. PART NUMBER:

M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063

EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

B. PREFERRED SIZE:

.TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19 4  
ECN 17-574

B	ADD REF TO PLATE: T651 TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CARP-149)	CP	17 05 05
A	NEW ISSUE	RF	10 11 08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17.05.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
REV. B SHEET 1 OF 1			
TITLE 7075-T6 SHEET/PLATE SPEC			
SCALE NTS			
COPYRIGHT © 2009 BY DART AEROSPACE LTD			

APPROVED

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075T650.275x8.000  
 DATE: 18/12/17

PO / BATCH NO.: P0041817/S138111

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.04  
 QUANTITY INSPECTED: 12.04  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375"  
 THICKNESS RECEIVED: 0.375"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	AMS-20-A-250/12
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	HT 28494789
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS 61</u>	SIGNED OFF BY: _____		
DATE: <u>18/12/17</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle &amp; Co.


PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Shipment No:3779153

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 13-DEC-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOU LIN	<b>BOL No</b> 3779153-2

**Shipment Details**  
Final Destination Branch - TOR

<b>Order No</b> 5328080	<b>Line No</b> 1	<b>Item No</b> 750067.MO	<b>Description</b> 0.3750.PL.7075.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 5 IN ( + .1250/- .0000 IN) X 144.5 IN ( + .1250/- .0000 IN) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	
<b>Purchase Order No</b> 41817	<b>Part Number</b>		<b>Ordered Qty</b> 2.00 PCS	<b>Invoice Qty</b> 2.00 PCS
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS				
<b>Delivery No.</b> 122458542	<b>Mill/Source</b> KAISER ALUMINUM	<b>Heat Number</b>  284947B9	<b>Mech Id</b>	<b>PCS</b> 2
		<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 56.7726

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the date of receipt of the material. Material not conforming to the above specifications, or material cut by the customer, cannot be returned.

Reviewed by Authorized Castle Metals Representative:

**SUE KALOUS**

DEC 13 2018 Date: Name:



SHIP TO: A M CASTLE & CO 14001 ORANGE AVE P.O. BOX 1402 PARAMOUNT, CA 90723
SOLD TO: AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523

# KAISER ALUMINUM

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number

4528433

CUSTOMER PO NUMBER: 470854-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 750067	SHIP RUN/LOAD: 104393/8	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1263285-1	SHIP DATE: 16-SEP-2018	ALLOY: 7075	CLAD: BARE	TEMPER: T651
PRODUCT DESCRIPTION: Sawed Plate				
WEIGHT SHIPPED: 3216 LB	QUANTITY: 12 PCS EST.	TRUCK B/L #: 2076118	GAUGE: 0.3750 IN ( 9.5250 MM)	DIAMETER/WIDTH: 48.500 IN (1231.9 MM)
			LENGTH: 144.500 IN (3670.3 MM)	

MHU 2264264: LOT 284947B9: 12 pieces;

### Certified Specifications

AMS 4045/RevL  
CMMP 025/RevV

AMS-QQ-A-250/12 RevA

ASTM B 209/Rev14

Test Code: 1512

Lot: 284947B9 Cast 698

Drop 44

### Test Results

Ingot 2

Melted in USA

(ASTM E8/B557)  
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	85.1 : 85.1 (587 : 587)	74.5 : 74.5 (514 : 514)	14.1 : 14.2

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.18	1.5	0.03	2.4	0.20	5.7	0.03	0.01	0.01	TOT 0.03

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

### ORDER COMMENTS

AMC CA-15409 R 4





Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108  
15000 E Euclid, Spokane Valley WA 99216  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4528433

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- \* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
  - \* All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
  - \* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
  - \* has been thermally processed in compliance with AMS 2772, where applicable.
  - \* is mercury free, within the limits of detection of ASTM E1215 (< 1ppm).
  - \* is in compliance with RoHS 2, European Union Directive 2011/65/EU.
  - \* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
  - \* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
  - \* is free of weld repair.
  - \* meets the reporting requirements of EN10204, Type 3.1.
- Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Michael Peske, PT Lab Process Engineer

# SPECIFICATION CONTROL DRAWING

A. PURCHASE MATERIAL: 7075-T6/T62 (T651 ALUMINUM SHEET OR PLATE)

SPECIFICATION:  
QQ-A-250/12 OR AMS-OO-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

B. PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION:  
QQ-A-250/13 OR AMS-OO-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

C. PART NUMBER: M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

D. WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S 063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

E. PREFERRED SIZE: TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

APPROVED

B	ADD. REF TO PLATE: T651 TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CARB-149)	CP	17 05 05
A	NEW ISSUE	RF	10 11 08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	CP	
DRAWN	CP	ML	
CHECKED	ML	LL	
MFG. APPR.	LL	WM	
APPROVED	WM	D9	
DE APPR.	D9		
DATE	17 05 05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
REV. B			
SHEET 1 OF 1			
TITLE 7075-T6 SHEET/PLATE SPEC			
SCALE NIS			
COPYRIGHT © 2015 BY DART AEROSPACE LTD			



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075T650.375x5.00

PO / BATCH NO.: P0041817/S138106

DATE: 18/12/17

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.375"

QUANTITY RECEIVED: 24.08

THICKNESS RECEIVED: 0.375"

QUANTITY INSPECTED: 24.08

SHEET SIZE ORDERED: -

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: -

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	AMS QQ-A-250/12
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	LT:28194789
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS 61</u>	SIGNED OFF BY: _____		
DATE: <u>18/12/17</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in